

The Illinois Department of Transportation's Highway Construction Manual has been updated from its previous version. All previous editions of this manual are now obsolete and changes in content from the previous version have been marked and summarized in the Revision Summary section below.

The Construction Manual provides information and guidance to construction personnel who are responsible for the day-to-day supervision and operations of the state's highway construction projects.

The manual does not supersede the *Standard Specifications for Road and Bridge Construction*, Supplemental Specifications, Special Provisions, plan details or notes. It is used to clarify these documents for the purpose of standardizing procedures and assuring adequate and uniform quality control and contract administration.

CD-ROM has been selected as the primary format for distribution of the Construction Manual. At regular intervals, the entire manual will be reissued via an updated CD-ROM. Updates will be posted via Construction Manual Addendum at <http://www.dot.il.gov/constructionmanual/addendum.html>.

The Construction Manual is also available for viewing or downloading on IDOT's web site at <http://www.dot.il.gov/constructionmanual/preface.html>. The Construction Manual files posted will mirror the most recent CD's contents and will be updated when a new CD is issued (in even years).

Users are encouraged to inform the Bureau of Construction of any inconsistencies, errors, or new ideas so that the manual may reflect the best and most up-to-date information practical. Form [BC 2371](#), Construction Manual Corrections and Comments, is provided to submit this data.

## REVISION SUMMARY

The following is a summary of changes to the manual content since the 2004 version of the Construction Manual was issued:

### Miscellaneous (applies to all sections):

- All references to 'District Engineer' changed to 'Regional Engineer'

### Preface

- Added Revision Summary Section

### Administration Section

- Removed "Illinois Statutes provide for certain amounts of money to be retained to protect the interest of the State, and it is unnecessary for the Resident to make additional deductions in the payments which are due the Contractor" from the *Message to the Resident on Construction*.

### Section 100: General Requirements and Covenants

- Modified 101.14 to reflect the creation of 5 Regions.
- Added Section 104: Scope of Work

### Survey Section

- Detailed discussion of Superelevation, including design criteria and sample calculations has been removed and the user referred to Chapter 32 of the Bureau of Design and Environment Manual.

### Section 200: Earthwork, Landscaping, Erosion Control

- The soil disturbance limitation has been lowered from 5 acres to 1 acre in accordance with the updated NPDES Storm Water Permit Requirements.

### Section 300: Subgrades, Subbases and Base Courses

- No changes in content

### Section 400: Surface Courses, Pavements, Rehabilitations and Shoulders

- No changes in content

### Section 500: Structures

- On page 500-11 the coefficient of thermal expansion for metric and English were corrected.
- On page 500-18, added the Field Verification Testing section.

### Cleaning and Painting Existing Steel Structures

- Page 17, inserted new 5.20.18. Overspray controlled, including containment, if applicable? – Verify that the contractor is controlling overspray, drips, and spills during application. Controls may include special containment materials or alternative methods of application such as brush and roller. Note that in some cases, the contract requires the use of the same surface preparation containment for the application of all coats.
- Page 25, inserted new 6.4.12. Overspray Controls used. Effective? – Record the type of controls used to prevent overspray, drips, and spills from escaping the work area. Controls may include the containment used for surface preparation, specially installed painting containment materials and/or alternative methods of application such as brush and roller. Also note whether the selected controls are effective for the work that day.

### Section 600: Incidental Construction

- No changes in content

### Section 700: Work Zone Traffic Control

- Revised the requirements for resident inspection of traffic control.
- Stated that Form BC 726, Traffic Control Inspection Report is to be used to record routine nighttime inspections.
- Removed the copy of policy TRA-1: Traffic Control Through Construction and Maintenance Work Zones.

### Section 800: Electrical Requirements

- No changes in content

### Section 900: Reserved

### Construction Memorandums

- Memorandum 4: Contract Changes, Articles 104.02 and 109.04. Changes include:
  - Moved history to Section 100
  - Reduced the number of change categories codes to 14
  - Required supporting documentation to be referenced to the authorization by including contract number and authorization number
  - Eliminated the requirement of miscellaneous information to be shown on the authorization
  - Eliminated the distinction between a contract change and a contract adjustment
  - Allow district approval for acceleration up to \$10,000
  - Increased approval authority for Resident Engineers

- Memorandum 10: Vibratory Rollers Approved For Use in Illinois Article 1101.01(g). The Bureau of Construction will no longer provide a list of approved vibratory rollers. Field personnel will be required to compare the equipment specifications with the Standard Specifications prior to allowing the use of the equipment.
- Memorandum 11: Bituminous Spreading and Finishing Machines Approved For Use in Illinois, Article 1102.03. The Bureau of Construction will no longer provide a list of approved bituminous spreading and finishing machines. Field personnel will be required to compare the equipment specifications with the Standard Specifications prior to allowing the use of the equipment.
- Memorandum 24: Equal Employment Opportunity Contract Provisions and District Responsibilities. The memorandum was modified to reflect the elimination of the requirement of the SBE 1052 form by the federal government.
- Memorandum 39: Transportation or Operation of Heavy Equipment on Pavement or Bridges Within the Contract Limits, Article 107.16. Changed District Engineer to Regional Engineer.
- Memorandum 42: Contractor Coring of Square Measurement Pavement and Shoulder Pay Items. Changes made to allow the district to waive coring for limited criteria without central office concurrence and corrects some errors in the examples.
- Memorandum 60: Erosion Control. The soil disturbance limitation has been lowered from 5 acres to 1 acre in accordance with the updated NPDES Storm Water Permit Requirements and changed Notice of Intent submittal requirement. The NOI is no longer sent to the IEPA, but is to be maintained by the District.
- Memorandum 76: Contractor Payments Articles 109.07 & 109.08. Change made to include the requirement for the Resident Engineer to sign the ICORS generated file copy of the Payment Estimate. Even though the Payment Estimates are submitted electronically with an e-statement allowing the payment to be processed, the Bureau of Accounting & Auditing determined that the file copy needs to have a wet signature as well, similar to the old manual payments procedure, where all copies were signed by the Resident.

#### Documentation Section

- Section A: General Requirements:
  - A-2, List of items to be noted in project diary updated.
  - A-6, added verbiage to state that a field book is also required for Superpave.
  - A-19, Approved scale requirements updated.
  - Removed 'Payment for Partially Completed Landscape Items' section to comply with revised Standard Specifications.
  - Discontinued the use of chemical (phenolphthalein) testing for the method of measurement for Lime Modified Soils and requires the use of cross sections or other established reference elevations. Remove chemical (phenolphthalein) testing as the 13<sup>th</sup> method of measurement.

- ICORS PC backup requirements defined.
- Section C: Final Documentation Requirements by Pay Item:
  - Section 406, added Superpave to the 'Code No. & Item' column.
- Section D: Reference Tables
  - D-1, Additional directions provided for items not included in Section D tables.
- Section F: Documentation Examples
  - F-1, Index of Examples updated.
  - F-35, Inspector's Daily Report example updated to include appropriate Evidence of Material Inspection.

#### Schedule of Average Annual Equipment Ownership Expense

- No changes in content

#### Project Procedures Guide

- Various locations
  - Various pages - updated the web site URL to [www.dot.il.gov](http://www.dot.il.gov)
- Section 800 Certification of Materials
  - Page 14-15 - District Engineer changed to "Regional Engineer"
  - Page 16 – District Engineer changed to "Regional Engineer" and cc: information updated
- Section 900 Trained Technicians
  - Page 20 – Table 2, added radiation safety class verbiage for contractor/consultant
  - Page 23 – Table 5, added radiation safety class verbiage for contractor/consultant
- Attachment 3 Cover
  - Page 30 – TICK, added "quality and" to definition
  - Page 31 – Aggregate, updated information to reflect new aggregate requirements
  - Page 32 – Column 7 – Container, added verbiage about labeling sample containers
- Attachment 3
  - Page 36 – Chemical / Admixtures inserted PCC Membrane Curing Compound/ Linseed Oil Emulsion under Product

- Page 37 – Concrete (Shotcrete, High Performance) changed “NR” to “See Sampling Schedules” under Jobsite Sample
- Page 38 – Electrical (Cable, conduit, unit duct) added “or CERT” under Evidence of Materials Inspection
- Page 38 – Electrical (Detector Loop) added “or CERT” under Evidence of Materials Inspection
- Page 38 – Electrical (Fiber Optic Cable) added “or CERT” under Evidence of Materials Inspection
- Page 38 – Electrical (Ground Rod) added “or CERT” under Evidence of Materials Inspection
- Page 38 – Guard Rail (Fasteners) changed “550” to “676” under Materials Series
- Page 39 – Joint Fillers & Sealers (Preformed Elastomeric Compression) changed “4 LF” to “6 LF” under Sample Size
- Page 39 - Joint Fillers & Sealers (PCC - Silicone) changed “MARK or VIS” to “CERT or MARK” under Evidence of Materials Inspection
- Page 39 – Landscaping (Excelsior Blanket) changed “TEST or LA 15” to “CERT or LA 15” under Evidence of Materials Inspection
- Page 40 – Landscaping inserted Compost under Product
- Page 40 – Landscaping (Peat Moss) added “or ILOK or LA 15” under Evidence of Materials Inspection
- Page 40 – Landscaping (Seed, Sod) added “or ILOK or LA 15” under Evidence of Materials Inspection
- Page 40 – Landscaping (Trees, Shrubs, Plants) added “or ILOK or LA 15” under Evidence of Materials Inspection
- Page 41 – Miscellaneous changed “Geotextile Drainage Fabric” to “Geotextile Fabric - French Drain, Ground Stabilization, Pipe Underdrain, Rip Rap, & Silt Filter Fence” and changed “MARK or TEST” to “MARK or CERT or LA 15” under Evidence of Material Inspection
- Page 41 – Miscellaneous inserted Concrete Revetment Mat Fabric under Product
- Page 41 – Piling changed “Metal Shell or Steel H” to “Metal Shell, Steel H, or Steel Sheet” under Product
- Page 44 – Steel Reinforcing (Dowel Bar Assembly) added “(Only)” under Product
- Page 44 – Steel Reinforcing (Dowel Bar Assembly) added “or LA 15” under Evidence of Materials Inspection
- Page 44 – Steel Reinforcing (Prestressing Strand) changed “2-4 LF” to “2 @ 4 LF” under Sample Size

- Page 45 – Steel, Structural (Structural Steel) changed “BBS 59 or CERT” to “BBS 59 + CERT”
- Page 45 – Waterproofing Materials, Reflective Crack Control (Reinforcing Fabric) changed “MARK or LA 15 or TEST” to “MARK or CERT or LA 15”
- Attachment 4
  - Page 46 – Bituminous Mixtures, removed the “Marshall –Stability and Flow” line
  - Page 46 – Soils/Embankment, changed to “Soils” and changed “Soils Compaction” to “Density” under TEST
  - Page 46 – CAM/PAM removed “/Compaction” under TEST
- Sampling Schedules
  - Page 54 - Schedule 3(Non-QC/QA Concrete), changed the sampling frequency verbiage for High Performance Shotcrete from “1 test per panel, per day” to “1 test panel per day”

#### Construction Inspectors Checklists

- Earth Excavation and Embankment. Item 7d, the dimension of broken concrete was corrected to show 0.2m<sup>2</sup> as per Article 205.04(a).
- Concrete Structures Other Than Bridge Decks
- Bridge Superstructures

#### Forms and Reports

Revisions to non-Construction forms may not be detailed in this section. To ensure that you are using the current version of a form each and every time you fill one out, please access them via IDOT's web site at [www.dot.il.gov](http://www.dot.il.gov).

- Introduction: Additional instructions added. ‘View Sample’ and ‘Fill Out Form’ buttons added.
- BBS 2562: Construction Inspector Daily (QA) Report. New #18 inserted.
- BBS 2563: Contractor Daily (QC) Report. “Overspray Controls Used” added to the Coating Application Checklist on page 2.
- BC 22: Authorization of Contract Changes. Revised to eliminate the following fields: Contract Adjustment / Change Order, Partnered / Non-Partnered, Letting Date, Time Extension Required, Emergency Change, the A/D column, Signature blocks for the Engineers of Design and Local Roads. Added were the proper names of the Secretary, Director of F&A and Chief Counsel.
- BC 71: Final Inspection of State Road Work. Updated Director of Highway's title.

- BC 111: Inserted new question 22, "Has the Contractor submitted a Form BC 2115, Subcontractor Payment Agreement (Non DBE) on this project which verifies the actual amount paid to each?" The ISO and IL form numbers have been removed.
- BC 239: Weekly Report of Resident. All BC 239 submittals as of 5/1/06 must be on the 5/06 version of the form.
  - Contract Price and Contract Completion Date fields added.
  - Contract Work Days field changed to Contract Working Days.
  - Suspended date field changed to Reports Suspended.
  - Resumed date field changed to Reports Resumed.
  - Completed date field changed to Significant Completion.
  - Time Limit field removed.
  - Instructions page updated to reflect field changes.
  - Removed ISO and IL form numbers.
- BC 255: Progress Schedule. Updated Regional Engineer title.
- BC 260a: Request for Approval of Subcontractor. Updated Regional Engineer title.
- BC 624: Index of Sheets. This form is eliminated as of March 2006. It is actually a report generated by either ICORS or BCM.
- BC 775: Resident Construction Supervision. Updated Regional Engineer and Director of Highway's titles.
- BC 776: Resident Inspection – Local Project. Updated Director of Highway's title and added 'District' field.
- BC 777: Notice. Updated Director of Highway's title.
- BC 930: Consultant Engineer's Weekly Personnel and Vehicle Time Distribution Record. Updated columns 3 to accept 3 and 4 digit numbers.
- BC 981 and BC 981m: Agreement on Accuracy of Plan Quantities. Updated Regional Engineer title.
- BC 1215: Resident Engineer's Request for Authorization of Change Orders. Eliminated as of March 2006.
- BC 1241: Performance Bond. This form has been modified so that it may be used for all items requiring a performance bond, such as woody plants, epoxy, thermoplastic,



preformed thermoplastic, performed thermoplastic Type A, B or C pavement marking, or raised reflective pavement markers.

- BC 2115: Subcontractor Payment Agreement. This is a new Bureau of Construction form required for IDOT to comply with CFR 49.26.11, whose purpose is to provide as accurately as possible, data regarding DBE and non-DBE contractors and subcontractors. In order for IDOT to comply with the requirements outlined in this statute, the submittal of the form will be required for each contract being finalized beginning January 1, 2006. The BC 2115 will document which non-DBE subcontractors worked on the contract and the actual amount the prime contractor paid to each non-DBE subcontractor. The BC 2115 will be completed by the prime contractor and submitted to the District Office at the completion of the contract as a part of the final papers packet. Failure to submit this form with the final packet may result in a delay of the final voucher.
- BC 2256: Updated Regional Engineer and Director of Highway's titles.
- BC 2320: Rotational Capacity Test Worksheet. This form has been eliminated.
- BC 2331: ICORS PC Backup Schedule. This form was added to the Forms and Reports section. The form itself was modified to add 'No ICORS Entries' check boxes.
- BC 2367: Independent Truck Weight Check. Updated the email address to be used for electronic submittals. Weight checks are no longer required to be submitted to the Office of Quality Compliance & Review.
- BC 2370: Updated Regional Engineer title.
- BC 2448a: Profilograph Report for Pavement Smoothness. Changed the report name and the definition of Operator on page 2 as a result of changes to the special provision for surface testing of pavements (effective November 18<sup>th</sup> letting).
- BC 2529: Bituminous Paving Daily Record. Updated formatting.
- BC 2529m: Bituminous Paving Daily Record (Metric). New form created for metric contracts.

## EEO

- Updated references to "employment" by removing the preceding word 'federal'.
- Removed SBE 1052, Contractor's Quarterly Training Report, from the Contractor's EEO & Labor Compliance Reporting and Posting Requirements table.
- Changed reference to WH 348, Statement of Compliance, to SBE 348, Statement of Compliance.